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COUNTY BOROUGH OF BOOTLE.



ANNUAL REPORT
OF THE
SCHOOL MEDICAL OFFICER
FOR
1920.

F. T. H. WOOD, O.B.E., M.D. (Lond.), B.S., B.Sc., D.P.H.,

School Medical Officer, Medical Officer of Health, Administrative
Tuberculosis Officer, and Medical Superintendent of Corporation
Hospital and Sanatorium.

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CONTENTS

Introductory.

Section I.—Administration	6
„ II.—Hygienic Conditions of Schools	7
„ III.—Methods of Medical Inspection	8
„ IV.—Findings of Medical Inspection	11
„ V.—Incidence of Infectious Disease	24
„ VI.—Following-up of findings of Medical Inspections	28
„ VII.—Treatment of Physical Defects of School Children	29
„ VIII.—Open-air Education	38
„ IX.—Physical Training	39
„ X.—Provision of Meals	41
„ XI.—Education of Mentally and Physically Defective Children	44
„ XII.—Secondary School Children	47
„ XIII.—Employment of School Children	48

Adenoids	21, 31	Nose	21, 31
Aural Clinic	31	Nutrition	14
Blind Children	46	Open Air Schools	38
Cleanliness	19	Ophthalmic Clinic	32
Clinics, Summary of Work of	29	Parents' Attendances	42
Clothing	18	Play Centres	40
Co-operation with School Attendance Department	43	Playground Classes	39
Cost of medical inspection... ..	6	Physically Defective Children	46
Crippling	24, 36, 46	Physical Training	39
Deaf Children	46	Record Cards	8, 28
Deaths	48	Re-examinations	10
Defects	29	Remedial Exercises Clinic	37
Dental Clinic	33	Ringworm	22
Diphtheria	26	Sanitation in Schools	7
Ear Disease	23	Scarlet Fever	26
Employment	48	Scabies	22, 31
Epileptics	45	School Closure	27
Exclusion of Sick Children	25	School Nurses, Work of	28
Eye Disease	22, 32	Secondary Scholars	14, 47
Feeding	41	Skin	21
“Following up”	28	Smallpox	26
Footwear	18	Special Examinations	10
Groups examined	8	Squint	23
Hearing	23	Staff	3
Heart Disease	13	Teeth	23, 33
Heights of Children	14, 16, 17	Throat Clinic	31
Inspection Clinic	10	Tonsils	21
Invalid Children's Association	43	Tuberculosis	21
Lung Disease	13	Vaccination	26
Malnutrition	15	Vision	23, 33
Measles	26	Weights of Children	14, 16, 17
Mentally Defective Children	44	Work of past years	10
Minor Ailments Clinic	30	Whooping Cough	26

Table I.—Number of Children inspected... ..	9
„ II.—Return showing the Physical Condition of Children inspected	12
„ III.—Return of Exceptional Children	45
„ IV.—Treatment of Defects of Children	19, 34, 49
„ V.—Inspection, Treatment, &c., of Children	29
„ VI.—Summary relating to children inspected	13

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* *Members of the Elementary Education Sub-Committee.*

STAFF —

School Medical Officer and Medical Officer of Health—

W. ALLEN DALEY, M.D., B.Sc. (Lond.); B.A. (R.U.I.); D.P.H. (Cantab.)
(Resigned 30th June, 1920.)

F. T. H. WOOD, O.B.E., M.D., B.S., B.Sc. (Lond.); D.P.H. (Durh.).
(Appointed 1st July, 1920.)

Medical Inspector of Scholars—

J. MAXWELL TAYLOR, M.A., M.B., D.P.H. (Aberdeen).
(Resigned 30th September, 1920.)

*Assistant School Medical Officer and Assistant Medical Officer
of Health—*

Miss K. M. COWE, M.B., Ch.B. (Liverpool). (Appointed 1st October, 1920.)

School Nurses—

Miss A. HUGHES, Miss E. DUNDAS, Miss THOMAS.

Part-time Officers—

*Ophthalmic Surgeon—*R. E. HARCOURT, M.D., F.R.C.S.

*Throat Surgeon—*C. YORKE, F.R.C.S.

*Dental Surgeon—*A. E. MEESON, B.D.S.

*Orthopaedic Surgeon—*T. P. McMURRAY, M.B., B.A.O., M.Ch.
(Appointed 17th February, 1921.)

*For Remedial Exercises—*Miss CARTWRIGHT. (Resigned March, 1920.)
Miss CHUCK (Appointed March, 1920).

“ The real issue is still the education of the people. By our ignorance and our willingness to be ignorant, both in theory and in practice, we provide the conditions which inevitably lead to the growth of an enfeebled race.”—SIR GEORGE NEWMAN, M.D.

MARCH 1921.

*To the Chairman and Members of the
Education Committee.*

LADIES AND GENTLEMEN,

I have the honour to present herewith the thirteenth Annual Report on the Medical Inspection of School Children in the Borough.

It reviews the work of a School Medical Department well organised and equipped to deal with most of the specific defects of childhood in a way which was not possible before its establishment. But School Hygiene has a wider duty to perform than to secure the treatment of established defects, even although it detects and treats them at an early stage; it shares with general preventive medicine the large and difficult task of instilling into the minds of the public that after Central and Local Authorities have done their utmost, it rests with the individual to obey the simple laws of health—to realise the necessity for good food, fresh air, cleanliness, and exercise—and thus to secure fitness for himself and for his children.

The year under review was not favourable to large developments in the School Medical Service and the most obvious feature for comment is the change which occurred in the medical staff of the Department. The present year is even less opportune for the submission of new recommendations, but the following points should be noted for consideration as soon as financial conditions will permit:—

- (1) The extension of the practice of the open-air life—in existing schools, in playground classes, in a special open-air school, and in a summer holiday camp (pages 38-39).
- (2) The statutory requirements to provide education for the mentally and physically defective (pages 44-47).
- (3) The extension of the School Dental Service (pages 33-36).

My sincere thanks are given to the Education Authority, in particular to the Chairman and Members of the Elementary Education Sub-Committee, for the sympathetic reception given to suggestions which I have put forward during the last nine months, and to Mr. S. Clarke, the Secretary for Education, for willing help and advice in the presentation and execution of schemes to promote the well-being of the school-child. To the teachers of the Borough also, who realise that the educationist and the hygienist are complementary, I would express gratitude for support and assistance given to myself and to the efficient medical, nursing and clerical staff whose work is outlined in the following pages.

I am, Ladies and Gentlemen,

Your obedient servant,

F. T. H. WOOD,

School Medical Officer.

•

COUNTY BOROUGH OF BOOTLE.

Number of Schools and Children—

	Number.	Accommodation.	Mean No. on rolls.	Average attendance.
Council Schools	7	7,728	7,176	6,418
Church of England Schools	3	2,407	2,474	2,183
Roman Catholic Schools ...	3	2,976	3,278	2,823
	—	—	—	—
	13	13,111	12,928	11,424
	—	—	—	—
Secondary and Junior Technical Schools	3	—	943	—
	—	—	—	—

Cost.—I am indebted to the Borough Treasurer for the following:—

The rateable value of the Borough in 1920-1921 was £499,154.

The gross cost of Medical Inspection for the twelve months ended March 31st, 1920, was £2,568 4s., compared with £1,698 2s. 6d. in the preceding year; the Government grant was £1,283 18s. 6d., sundry receipts totalled 7s., hence the net cost was £1,284 5s. 6d.

The grant, as in previous years, was at the maximum rate of 50 per cent. of the net expenditure.

The cost under this head per child on the school rolls was 3s. 11.27d. gross and 1s. 11.63d. net, and the cost as a decimal part of a penny rate was 1.281d. gross and 0.640d. net.

(a) Particulars of the staff of the School Medical Service, and of the arrangements for the co-ordination of its work with that of other Health Services.

In July, Dr. W. A. Daley, who had been School Medical Officer since June, 1911, and under whose guidance the School Medical Service in Bootle grew to its present state, resigned on receiving another appointment, and I succeeded him in his joint duties as School Medical Officer

and Medical Officer of Health, and the established policy of the administration by one officer of all branches of the Council's work in preventive medicine was thus continued.

In September, Dr. J. M. Taylor, who had acted as Medical Inspector of Scholars (with an interval for military service) since November 1914, resigned on receiving another appointment, and the opportunity was taken of securing still closer co-ordination between Infant and Child Welfare work by appointing one officer for the executive duties in connection with the health of children from birth to school leaving age: incidentally this dual appointment served to increase the variety and hence the interest and value of the examining officer's work. Dr. Kate M. Cowe, who had done temporary service with the Council during the war was appointed to the post on 1st October, 1920, it being arranged that school medical work should occupy seven-elevenths of her time and that maternity and child welfare work should fill the remainder. Dr. Cowe now undertakes the medical inspection and re-inspection in all the elementary schools and of the girls in the Secondary School, whilst the School Medical Officer undertakes similar duties in the Boys' Secondary School and in the Junior Technical School.

The part-time specialist officers remain unchanged with the addition in February, 1921, of Mr. T. P. McMurray, M.Ch., for consultant orthopædic work.

(b) School Hygiene—Review of the Hygienic Condition of the Schools in the Area.

It is realised that the present is not a favourable time for the reception of suggestions for improving the hygienic condition of the schools, which having been erected at intervals during the last seventy years, necessarily fall short of the ideals of the present day. Accordingly no systematic survey has been attempted, and the current year's programme will be similarly limited to calling attention to such defects as are easily remediable.

All the schools are ventilated on the natural system by fire-places, open windows, and accessory air inlets and outlets, and in general it may be said that advantage is taken of the facilities thus provided for the admission of fresh air; the facilities, however, are far from sufficient to comply with Professor Leonard Hill's requirements for the practice of the open-air life in school, and to afford the sunlight, dryness, diversity of cooling effect, and movement of the air which would exert a health-giving effect.

In one or two schools complaint has been made of insufficient heating in the winter months, and temperature observations are being made to ascertain the amount of defect; on the general question of school temperatures it may be said that assuming 60 degrees to be the desirable temperature point, a deficiency of a few degrees is less important than an excess, but that temperatures of 40 to 45 degrees such as are occasionally reported are harmful to inactive young children not only directly but also through the shutting of windows which they necessarily require.

The important question of school lighting deserves some attention. In practically every instance in the Bootle schools in which the direction of the light is wrong and is causing the scholar to work in his own shadow, one finds that defects of planning such as the position of doors or fireplaces or the existence of galleries have prevented the re-arrangement of desks, which would give the main light from the left and thus correct the error, and it is regrettable that this condition must continue to hamper the children for many years to come.

**(c) Medical Inspection—Description of arrangements made
and methods adopted for the Medical Inspection
of the children.**

The medical inspection of all entrants, eight year olds (children born between 1st April and 31st December, 1911) and "leavers" (children born before 31st December, 1907, who had not been previously examined as "leavers") as required by the Code, has been carried out in accordance with the Board's schedule, with the exception noted also in the last Annual Report that the entrants at St. James' R.C. School have not been examined owing to lack of accommodation: in addition to the above the entrants at St. Winefride's R.C., Orrell and Salisbury Road Council Schools, omitted in 1919, have now received their medical examination.

BOARD OF EDUCATION.—TABLE I.

A.—Routine Inspections.

B.—Special Inspections.

Age	Entrants					Intermediates			Leavers				Grand Totals	Special Cases	Re-exami- nations	Secondary School	Juni. Tech. School		
	3	4	5	6	Other Ages	Totals	8	9	T'ls.	12	13	14						Other Ages.	Totals
Boys ...	1	10	463	289	64	827	395	150	545	433	62	1	—	496	1858	1118	2871	225	135
Girls ...	—	13	471	249	63	796	423	162	585	391	45	2	—	438	1829	1146	2937	140	—
Totals...	1	23	934	538	127	1623	818	312	1130	824	107	3	—	934	3687	2264	5808	365	135

No. of individual children inspected = 5,497.

The above table showing 3,687 children medically inspected in the Code age groups is in close approximation to last year's figure of 3,683, and represents 32.2 per cent. of the average attendance, as compared with 32.5 per cent. in 1919 and 23.9 per cent. in 1918.

Special Examinations. The number of children presented for special examination shows an increase from 1,549 to 2,264, and is double the figure of two years ago; 1,945 of these were seen at the inspection clinic held daily in the School Medical Offices, while the remaining 319 were seen at school in the course of routine visits. The Inspection Clinic receives children sent by magistrates and the School Attendance Sub-Committee for report as to fitness for attendance, as well as from teachers and parents for advice as to the necessity for medical treatment.

The following table classifies the source of reference:—

Teachers	724 or 37.2 per cent.
Parents or others	475 „ 24.4 „
School Attendance Officers ...	408 „ 20.9 „
School Nurses	338 „ 17.3 „

Re-Examinations. 5,808 re-examinations of those children in the above groups who were referred for further observation or treatment were made during the year, as compared with 4,563 during 1919, and 3,846 during 1918; 4,585 of these were performed at the schools and 1,223 at the School Medical Offices.

Work of Past Years. The following table shows the total number of examinations since the inauguration of the work:—

Year.	Routine Inspections.	Special Examinations.	Re- Examinations.	Secondary Schools (Routine).	Junior Technical School.	Totals.
1908	1565	—	—	—	—	1565
1909	2550	408	—	—	—	2958
1910	2049	—	—	—	—	2049
1911	2920	515	1119	—	—	4554
1912	3966	648	3170	—	—	7784
1913	3488	762	3490	—	—	7740
1914	3349	1073	2871	—	—	7293
1915	2955	1200	2754	—	—	6909
1916	3217	1209	3517	—	—	7943
1917	2960	1375	4725	—	—	9060
1918	2684	999	3846	—	—	7529
1919	3683	1549	4563	765	—	10560
1920	3687	2264	5808	365	135	12259
	39073	12002	35863	1130	135	88203

(d) Findings of Medical Inspection—Review of the facts disclosed by Medical Inspection.

Table II. which follows, is a summary of the defects noted at both routine and special examinations, and shows that 5,925 defects occurring in 3,868 individuals were referred for further observation or treatment. For convenience the Table also classifies the results of medical inspection in the Secondary and Junior Technical Schools, but the figures above and the comments below as far as page 47 refer only to elementary scholars.

The number examined at routine inspections and found to be without any physical defect totals 27.4 per cent. as compared with 27.3 last year, 19.9 in 1918, and 16.5 in 1917. The more important percentages of physical defects this year are as follows (the figures for 1919 being shown in brackets):—Malnutrition 6.6 per cent. (6.8); defective vision and squint 13.1 per cent. (13.4); external eye disease 2.8 per cent. (3.4); enlarged tonsils 7.5 per cent. (7.2); adenoids 1.0 per cent. (2.2); organic heart disease 1.0 per cent. (2.2); anæmia 2.4 per cent. (2.3); and lung disease 8.7 per cent. (7.1).

Children referred for further observation or treatment constituted 61.5 per cent. of the entrants examined, 58.6 per cent. of the eight year old boys, and 65.9 per cent. of the eight year old girls, together with 60.4 per cent. of the senior boys and 68.9 per cent. of the senior girls; or 62.5 per cent. in all, as compared with 57.6 per cent. in 1919.

Summary of Defects.—A general summary may now be given of the results of the examinations:—

BOARD OF EDUCATION.—TABLE II.

NUMBER EXAMINED.			Routine		Specials		*Secondary School		†Jun Tech. School	
			T.	O.	T.	O.	T.	O.	T.	O.
Number examined			3687		2264		365		135	
Skin	Mal-nutrition	...	157	90	13	10	11	7	—	1
	Uncleanliness:—									
	Head	...	442	3	32	—	2	1	—	—
	Body	...	183	62	33	3	2	—	—	—
	Ringworm:—									
	Head	...	15 ⁹⁰	1	56	—	—	—	—	—
	Body	...	1	—	39	—	—	—	—	—
	Scabies	...	13	—	111	—	2	—	—	—
	Impetigo	...	106	—	356	—	1	—	1	—
	Other Skin Diseases	...	41	—	243	—	4	—	—	—
Eye	Blepharitis	...	76	2	64	—	5	—	1	—
	Conjunctivitis	...	14	1	185	—	—	—	—	—
	Keratitis	...	1	—	7	—	—	—	—	—
	Corneal Ulcer	...	2	—	15	—	—	—	—	—
	Corneal Opacities	...	—	—	—	—	—	—	—	—
Ear	Defective Vision	...	301	113	125	18	25	24	7	1
	Squint	...	46	23	20	2	—	—	—	—
	Other Conditions	...	6	4	34	—	—	—	—	—
	Defective Hearing	...	99	10	30	—	7	—	2	—
	Otitis Media	...	—	—	—	—	—	—	—	—
Nose and Throat	Other Ear Diseases	...	68	—	122	—	5	—	—	—
	Enlarged Tonsils	...	51	226	17	15	6	24	1	1
	Adenoids	...	12	26	15	3	—	3	—	—
	Enlarged Tonsils and Adenoids	...	19	15	15	7	—	1	—	—
	Other Conditions	...	24	180	90	18	6	18	—	—
Heart and Circulation	Enlarged Cervical Glands (Non T.B.)	...	19	62	59	3	4	6	—	—
	Defective Speech	...	21	35	11	2	3	—	—	—
	Dental Disease	...	435	5	45	—	37	—	32	—
	Heart Disease:—									
	Organic	...	2	35	4	3	—	6	—	—
Lungs	Functional	...	1	19	1	—	—	3	—	—
	Anæmia	...	62	27	10	—	5	3	—	—
	Bronchitis	...	176	61	70	—	3	2	—	—
	Other Non-T.B. Diseases	...	11	66	15	4	—	14	—	1
	Pulmonary Tuberculosis:—									
Tuber- culosis	Definite	...	1	—	1	—	—	—	—	—
	Suspected...	...	8	7	5	4	—	—	—	—
	Non-Pulmonary:—									
	Glands	...	5	8	4	—	—	—	—	—
	Spine	...	1	—	—	—	—	—	—	—
Nervous System	Hip	...	1	1	—	—	—	—	—	—
	Other Bones and Joints	...	1	—	2	—	—	—	—	—
	Skin	...	1	1	1	—	—	—	—	—
	Other Forms	...	2	1	3	—	—	—	—	—
	Epilepsy	...	2	2	1	—	—	—	—	—
	Chorea	...	4	1	12	—	—	—	—	—
	Other Conditions	...	8	13	10	2	7	3	—	—
	Deformities:—									
	Rickets	...	2	2	4	—	1	—	—	—
	Spinal Curvature	...	2	1	4	2	2	3	—	—
	Other Forms	...	27	13	15	4	7	11	—	—
	Other Defects or Diseases	...	59	30	236	16	3	12	2	—
Total			2528	1146	2135	116	148	141	46	4

No of individual children referred for treatment or observation 3868.

*No. referred for T.=111 †No referred for T.=41
 „ „ O.= 82 „ „ O.= 1

The general facts relating to children seen at the routine examinations are summarised in the table which follows:—

BOARD OF EDUCATION.—TABLE VI.

SUMMARY RELATING TO CHILDREN MEDICALLY INSPECTED
AT THE ROUTINE INSPECTIONS DURING THE YEAR 1929.

[illegible]

Height, Weight, and Nutrition. The average height and weight of the children inspected at the routine examinations have been worked out as in previous years, and in the tables below are contrasted with the standards obtained by Mr. Arthur Greenwood from the analysis of the statistics relating to over 800,000 British children.

ELEMENTARY SCHOOLS.

Boys.

Age last birthday.	No. examined	Height in Centimetres.			Weight in Kilograms.			Height Weight Ratio.
		Anthropometric standard.	Average height of Bootle children.	Index No. taking standard as 100.	Anthropometric standard.	Average weight of Bootle children.	Index No. taking standard as 100.	
5	463	103·3	104·6	101·2	17·4	18·1	104·0	173
6	289	109·2	108·3	99·1	19·1	19·2	100·5	176
8	395	120·3	118·6	98·5	23·5	23·2	98·7	195
9	150	124·7	121·2	97·1	25·3	24·1	95·2	198
12	433	139·7	136·6	97·7	33·1	32·3	97·5	236

GIRLS.

5	471	102·6	103·8	101·1	17·0	17·5	102·9	168
6	249	108·2	108·3	100·0	18·5	18·9	102·1	174
8	423	119·3	118·4	99·2	22·5	22·8	101·3	192
9	162	123·6	122·8	99·3	24·4	23·5	96·3	191
12	391	141·2	138·1	97·8	33·5	32·5	97·0	235

SECONDARY SCHOOLS.

Boys.

12	58	139·7	140·4	100·5	33·1	34·9	105·4	248
13	31	142·2	144·0	101·2	35·0	36·9	105·4	256
14	22	147·8	152·7	103·3	38·2	43·5	113·8	284
15	43	—	158·3	—	—	47·5	—	300

GIRLS.

12	33	141·2	144·3	102·1	33·5	35·2	105·0	243
13	35	144·7	148·3	102·4	36·4	38·7	106·3	260
14	6	149·3	147·3	98·6	40·3	38·2	94·7	259
15	12	—	153·4	—	—	49·1	—	320

Centimetre = 0.39 inch.

Kilogram = 2.2 lbs.

The tables are a confirmation of the facts to which attention was directed last year, that while the entrants to school life come up to the average height and weight for the whole country the leavers fall short of it. The accuracy of these findings need not be questioned, as there seems to be no inconsistency between them and the other health statistics of Bootle. Take, for instance the infant mortality rates which, although they show a gratifying reduction, for the decennial period 1910-1919 show an average of 121 per 1,000 births, as against 102.6 for the whole country; or the general death-rate of the town for the same period which was 17.2 per 1,000, as against 14.5 for the whole country; or the tuberculosis death-rate for the nine years 1911-1919, which was 1.93 per 1,000 as against 1.23. All these are varying expressions of common causes which in the past have been accepted as inseparable from urban industrial life and more particularly from life supported by casual labour, which is so largely represented in Bootle. Poor environment, insanitary homes, insanitary habits, resulting in the existence of dust and dirt, in the absence of sunshine and pure moving air, and in deficient, unsuitable, or badly prepared food—all inevitably lead to the malnutrition and poor physique pilloried in the table above. And just in proportion as an area contains a number of its population living under these conditions so must its vital statistics compare unfavourably with another area in which the conditions are less at variance with the known laws of health. "The elements of health for the body are nutrition, fresh air, and exercise. Cleanliness, warmth, and rest are also necessary, but they are secondary and consequent upon the other three factors. The fundamental requirements out of which emerge all other necessities are these three, if these are present and adequate we have something approximating to full life; if they are absent or inadequate, we have insufficiency, poor physique, disease, and even death."—*Sir George Newman*.

If the thesis needs further establishing let us consider the following table, in which the Bootle Elementary Schools are themselves sub-divided into two groups—"A" consisting of Balliol, Bedford Road, Linacre and Orrell Council Schools, and representing a higher social standard than "B" consisting of St. Mary's C.E., St. James' R.C., St. Winefride's R.C., and Salisbury Road Council Schools, and drawing its children from the less favoured ranks of labour. The figures are derived from routine examinations conducted during 1919 and 1920, and are strictly comparable; they show beyond a doubt that the causes which have depressed the general Bootle average below that of the whole country operate in an even greater degree in group "B" schools, with a still greater stunting of height and weight.

COMPARATIVE HEIGHTS AND WEIGHTS IN CERTAIN BOOTLE SCHOOLS.

BOYS.

Group A.				Group B.		
AGE	No. examined.	Average Height	Average Weight	No. examined.	Average Height	Average Weight
5	356	104·9	18·1	*296	103·9	18·0
8	135	121·0	23·9	208	118·3	23·1
9	137	124·4	25·3	128	120·1	23·8
12	259	137·8	32·9	340	135·4	31·8

GIRLS.

Group A.				Group B.		
AGE	No. examined	Average Height	Average Weight	No. examined	Average Height	Average Weight
5	343	104·3	17·6	*343	102·7	17·5
8	174	120·5	23·1	194	117·7	22·3
9	158	122·5	24·1	179	120·4	23·4
12	309	138·7	32·4	292	136·5	32·0

* Salisbury Road, St. Mary's and St. Winefride's Schools only.

Lest the above figures unduly damp the enthusiasm of the social reformer, one would point out that the comparison with the country generally is with a standard reached by few of the 96 great towns, and the table below shows that Bootle is above the average of Lancashire towns for which figures are available. Heights and weights are entered in this table in inches and pounds respectively, and the upper line for each district gives the number examined at each age group.

COMPARATIVE HEIGHTS AND WEIGHTS IN CERTAIN LANCASHIRE TOWNS.
GIRLS.

Towns.	Heights.			Weights.			Heights.			Weights.		
	5 yrs.	8 yrs.	12 yrs.	5 yrs.	8 yrs.	12 yrs.	5 yrs.	8 yrs.	12 yrs.	5 yrs.	8 yrs.	12 yrs.
Anthropometric Standard	40.7	47.4	54.9	38.7	52.0	72.7	40.4	46.9	55.5	37.7	49.6	73.9
Bootle	463	395	433	463	395	433	471	423	391	471	423	391
	41.2	46.7	53.8	39.9	51.1	71.2	40.9	46.6	54.4	38.6	50.3	71.6
Ashton-u-Lyne...	302	356	382	302	356	382	298	336	372	298	336	372
	39.8	42.0	53.2	37.5	45.6	66.3	40.5	43.1	53.8	37.1	43.5	68.1
Burnley	774	—	907	774	—	907	743	—	853	743	—	853
	41.3	—	54.4	38.7	—	68.6	41.0	—	54.5	38.0	—	69.4
Bury	94	390	299	94	390	299	95	399	273	95	399	273
	42.4	48.0	55.3	37.5	49.6	69.1	41.8	47.9	55.2	35.8	48.4	70.3
Oldham	—	971	1234	—	971	1234	—	954	1263	—	954	1263
	—	45.8	52.3	—	49.3	68.5	—	45.5	53.0	—	47.5	68.0
Rochdale	745	—	767	745	—	767	758	—	705	758	—	705
	40.7	—	54.5	38.9	—	70.5	40.5	—	54.8	36.6	—	70.4
Stockport	711	640	862	711	640	862	683	639	822	683	639	822
	41.0	46.8	54.2	38.7	50.0	69.8	40.5	46.6	54.6	37.0	47.9	69.3
Warrington	546	681	686	546	681	686	504	661	735	504	661	735
	40.5	44.7	54.4	37.2	48.8	69.6	39.1	44.7	53.6	36.3	48.8	69.5

The removal of the causes which year by year bring about these effects constitutes a task of the first magnitude, and is an economic rather than a medical problem, although health and education authorities may not shirk the difficult work which lies before them of impressing upon the public mind that the laws of health are simple; and that while a central or a local authority may initiate reforms and provide schemes, it rests with the individual finally as to whether he shall learn wisdom and apply his knowledge. "Questions of nutrition, of cleanliness, of fresh air, of warmth, of exercise, and of sound methods of educational supervision and nurture stand before any special forms of treatment for diseases of the throat, eye, or skin. The bed-rock of preventive medicine is improved conditions of life rather than specific remedies. Consider the immense benefit we should obtain for the child if we could ensure a fresh air life at home and at school—sound breathing, a strong and resistant respiratory tract, well oxygenated blood. Again, what therapeutics can compare with a real understanding of cleanliness—clean body and habits, clean teeth, clean clothes, clean food and water, a clean school and home?"—*Newman*.

Clothing. On the whole the children are well clad, the clothing being found insufficient in only 0.27 per cent. of the cases. On the other hand, there is a tendency for many parents to overclothe their children, seven or eight layers of heavy close fitting garments being found in a number of cases. Efforts are being made to educate parents in this respect.

Footwear. Of the children inspected at the routine examinations 92.8 per cent. wore satisfactory footgear, including 2.9 per cent. who wore clogs. The footgear of 5.2 per cent. was in need of repair, and 1.9 per cent. of the children were barefooted. There is a tendency towards deterioration in this respect, due to the high cost of footwear and the lack of employment; and it must be remembered that many of the children are specially prepared for these examinations, and that the conditions on inspection are probably more favourable than at other times.

During the winter 1919-1920, the School Canteen Committee distributed 835 pairs of clogs mainly through the school clog clubs: in this way children are able to obtain clogs at something less than retail price. It is unfortunate that more cannot be done in the way of supplying footgear to the necessitous cases; the re-appearance of the bare-footed child is a distressing sign of the times.

Cleanliness. The results of the routine inspections record dirty conditions as follows:—

Of the children examined 34 or 0.9 per cent. were verminous.

Of infant boys examined 12 or 1.4 per cent. had nits.

Of infant girls examined 159 or 19.9 per cent. had nits.

Of senior boys examined 23 or 4.6 per cent. had nits.

Of senior girls examined 147 or 43.5 per cent. had nits.

The number of boys and girls flea-bitten was 146 and 144 respectively.

It will be noted that a steady decrease in the number of children recorded as "dirty," continues. The grossly dirty children are narrowed down to a few relapsing cases which are kept under the constant supervision of the School Nurses. Such cases found in school are sent home for cleansing, and must be certified free from vermin by the Medical Inspector before permission to return to school is granted. The decrease in dirty conditions is due mainly to the routine visits of the nurses to the schools and the homes, but the co-operation of the teachers is of paramount importance. To their influence is due in no small measure, the higher standard of personal hygiene now attained in the schools.

Particulars of work done in the treatment of uncleanness are set out in the next paragraph.

BOARD OF EDUCATION.—TABLE IV.E.

(a) The average number of visits per annum made by the School Nurses to each school—24.

(b) The total number of examinations made of children by School Nurses in the year in the schools—18,022.

(c) The number of individual children found unclean—2,594.

(d) The number of children cleansed under arrangements made by the Authority.—Nil.

(e) A record of legal proceedings taken under the Children's Act, 1908. or the School Attendance Byelaws—Nil.

The greater prevalence of dirty or verminous conditions in the senior departments, as opposed to the infant departments, is worthy of note. This can only be accounted for by the greater amount of care bestowed upon the younger children by their parents; care which is, however, largely wasted

as long as older members of the family are left infested with vermin. To some extent sympathy is due to the mother of a family of girls who for a period of ten or fifteen years will give much time and labour to the task of keeping down the number of lice and their eggs developing in her children's hair; but it must be pointed out that such labour would be very largely diminished if the hair were worn in plaits; and if this requirement could be enforced in the elementary as it is in the secondary schools and a proper feeling of disgust at the presence of lice on the person were created, the figure for verminous conditions in the girls would at once drop from its present 33 per cent. to the 4 per cent. of the boys.

This verminous condition as shown in the Table below makes great calls on the time of the school nurses, who apart from the routine examinations, which are conducted after notice, make systematic examinations for cleanliness of all infants and girls in all schools twice a year; those found verminous in any degree are subsequently re-inspected, their parents are instructed verbally or by written notice as to the steps to be taken to cleanse the children, and the cases are followed up at school and at home until the end of the period. The table gives the results of this year's work, and the striking relapse due to the lack of the nurses' supervision during the summer holidays is clearly brought out—the figure of heads verminous to the third degree rising from 8 to 200 and of the less verminous from 126 to 309.

UNCLEANLINESS OF HEADS.

	First Half-Year.				Second Half-Year.			
	First Examination	Second Examination	Third Examination	Fourth Examination	First Examination	Second Examination	Third Examination	Fourth Examination
Number examined ...	6638				6658			
Number with few "nits"	305	591	515	403	667	670	593	535
Number with "nits" more numerous...	609	269	178	126	309	223	210	132
Number with lice and nits	254	98	36	8	200	88	47	8

Enlarged Tonsils, Adenoids, and Mouth Breathers. At the routine inspections 1.0 per cent. had symptoms of adenoids, and in 0.5 per cent. of the cases these were well-marked; 7.8 per cent. were month-breathers, 13.5 per cent. had enlarged tonsils, and in 8.5 per cent. the enlargement was more than trifling.

At the special examinations there were 32 cases of enlarged tonsils, 66 cases of tonsillitis, 18 cases of adenoids, 22 cases of enlarged tonsils and adenoids, 18 were mouth-breathers only.

There is a decrease in the number of children suffering from nose and throat defects. This is what one would reasonably expect, as many children are operated upon annually, who, on passing into the higher inspection groups, are found to be free from such disease.

Pulmonary Tuberculosis. At the routine inspection only one child was found to be suffering from active pulmonary tuberculosis, although there were 15 cases classified as doubtful. Of the special cases, one was found to be suffering from active tuberculosis of the lungs, while 9 were cases of doubtful tuberculosis.

Osseous Tuberculosis. At the routine inspections there were 4 cases of osseous tuberculosis, one of the spine, two of the hip, and one of the foot. There were two special cases, one was tuberculosis of the ribs and one tuberculosis of the foot.

Glandular Tuberculosis. There were 13 cases of tubercular glands of the neck found at the routine inspections; at the special examinations there were four cases of tubercular cervical glands.

Other Focus of Tuberculosis. There were 4 cases seen at the special examinations, 1 of lupus, 2 of tubercular peritonitis, and 1 tubercular ulcer. At the routine examinations there were 2 cases of lupus, and 3 of tuberculous peritonitis.

All these cases when found, are referred to the Tuberculosis Dispensary, for observation and treatment, and in some cases are admitted to the Leasowe Children's Hospital for institutional treatment.

Skin Diseases. There were 160 cases of skin disease, excluding ring-form, found at the routine examinations. These included 106 cases of impetigo, 13 of scabies, 6 of alopecia, 13 of eczema, 6 of seborrhoea, 8 septic sores, 1 dermatitis, and 2 cases of warts.

As special cases there were seen 356 cases of impetigo, 111 of scabies, 48 of eczema, 120 of septic sores, 4 of dermatitis, 7 of herpes, 5 of urticaria, 11 of alopecia, and 1 of erythema nodosum.

Scabies. The number of cases of scabies continues to be large. Home treatment is long, and in many cases not efficacious, and a considerable loss of school attendance is entailed.

A cleansing station where children can be bathed, and their clothes and bedding disinfected is required to deal with this condition effectively; otherwise cure is difficult and relapses are probable. The existing arrangement is to give full printed instructions for treatment to the parents and to supply the necessary ointments, a bi-weekly attendance at the Minor Ailments Clinic being required for observation. Where parents are conscientious in carrying out the directions a good result is speedily obtained.

Ringworm. There were 16 cases of ringworm of the scalp and 1 case of ringworm of the body seen at the routine examinations; 56 cases of scalp ringworm, and 39 cases of body ringworm were presented for special examination. This is a decrease of 23 cases of scalp ringworm, as compared with the figures for the year 1919. It is noteworthy that the cases are fairly distributed throughout the various departments, proving that the spread of the disease is not from child to child in the classrooms but in the scramble of play outside. Children suffering from the disease are permitted to attend school wearing washable linen caps which are made by the girls in some of the senior departments, and are supplied by the Education Authority; where this arrangement is strictly enforced, there appears to be no tendency whatever to the spread of infection to other children.

There are two satisfactory points to note here: (a) the decrease in the number of cases (b) the fact that the loss of the Government grant through enforced absence from school has also diminished.

The majority of cases are treated at the Minor Ailments Clinic. The most extensive cases of scalp ringworm are sent to the X-ray Clinic at the Bootle Borough Hospital. Twenty-eight microscopical examinations of hairs were made; 16 were positive, 12 were negative.

External Eye Disease. Cases of inflammatory conditions of the eye and eye disease numbered 411; 106 of these, including 78 cases of blepharitis and 15 cases of conjunctivitis, were discovered at the routine examinations, while 305 were special cases.

Defective Vision. Snellen's test types at a distance of 20 feet were used, each eye being examined separately, and the combined vision of both eyes also being tested.

The following groups were examined: (a) leavers, (b) entrants over seven years of age, (c) the intermediate group, (d) all children found in the classrooms to be suffering from strabismus, (e) any child, suspected to be suffering from visual defects, presented by the teachers or parents.

The percentage of leaving boys with normal vision was 59.8 per cent., the percentage of leaving girls 56.6 per cent.; 27 per cent. of leaving boys, and 23 per cent. of leaving girls had defective vision of such extent that further examination, and, if necessary, the use of suitable glasses were recommended.

In the intermediate group, 24.2 per cent. of the boys and 30.2 per cent. of the girls were found to have defective vision. This is an increase upon last year's figures, but is probably due to the more thorough and extensive examinations of this group.

Squint and Muscular Defects. At the routine examinations 151 cases of squint were found, or 4 per cent. of those inspected. There were 22 amongst the special cases.

Ear Diseases and Hearing. At the routine inspections 7 boys and 8 girls were found to be suffering from double otorrhoea, whilst 26 boys and 22 girls had unilateral discharge only. Amongst the special cases seen there were 32 with bilateral, and 61 with unilateral discharge. In 96.9 per cent. of the boys and 96.8 per cent. of the girls, the hearing was found to be normal. The forced whisper test, at a distance of 20 feet, was the hearing test used, and was found to be quite satisfactory, except in the case of two schools where the necessary quietude was very difficult to obtain.

Ear cases are seen daily at the Inspection and Minor Ailments Clinics, and a special aural clinic is held every Saturday morning. A few obstinate cases of otorrhoea have been subjected to ionic treatment, but the results are not worthy of remark.

Dental Defects. At the routine inspection 28.6 per cent. of the boys and 25.5 per cent. of the girls had four or more unsound teeth. This represents the findings of the Medical Inspector working without mirror or probe, and the work of the School Dentist is dealt with in detail on page 33. The results of both workers corroborate the experience of previous years here

and elsewhere as to the extent and importance of dental defects, and it is satisfactory for the Authority to recall that commencing in October, 1915, it took steps such as are now recommended for general adoption by the recent Departmental Committee on the Dentists' Act "to recognise dentistry as one of the chief, if not the chief, means for preventing ill-health," and to enlighten the public as to the need for conservative treatment of diseased teeth.

Deformities and Crippling Defects. At routine examinations 112 children were noted as suffering from rickets, in 16 of these cases to a marked degree; of other deformities 8 were the result of acquired infantile paralysis, 1 of congenital paralysis, 19 of postural spinal curvatures, and there were 6 cases of foot deformity.

Amongst the special cases 4 children were suffering from rickets, 2 from infantile paralysis, 2 from congenital defects, 13 from postural spinal curvatures, and 6 from deformities of the feet.

The question of crippling defects is referred to again on page 36, but here it may be said that tuberculous disease of the bones and joints, paralysis of limbs (mainly acquired after birth), and to a less extent, rickets, are the common causes of crippling. In most cases the onset of these conditions precedes school life and in grave cases postpones or prevents the child's educational training. The removal of the causes of these conditions and the searching out of cases in their early stages are duties falling to the general public health staff, and it may be expected that the systematic home visitation of infants from birth to school age will do much to secure earlier treatment for the diseases of joints and muscles, which in the past have been allowed to progress to the crippling stage before advice is sought.

Other Defects and Diseases. Under this heading are included 33 children who had goitre, 17 suffering from enuresis, 8 from hernia, 8 from worms, 6 from nephritis, and 9 from naevi.

At the special examinations there were 59 children suffering from mumps, 34 from injuries, 20 abscesses, 7 enuresis, 16 chicken-pox, 9 whooping-cough, 3 measles, 2 scarlet fever, 4 rheumatism, 4 goitre, and 4 synovitis.

(e) Infectious Disease—Review of the action taken to detect and prevent the spread of Infectious Diseases.

All cases of notifiable infectious disease which concern children attending the elementary schools are reported to the Head Teachers by the Medical Officer of Health through the School Medical Office, and certificates under Article 53 (b) of the Code excluding affected scholars for prescribed periods are forwarded to Head Teachers and the Attendance Department.

Exclusion of Sick Children. 2,598 children were excluded from school during the year in accordance with the provisions of Article 53 (b) of the Code; 282 out of the 333 who had been excluded before the end of 1919 returned to school in 1920, and the total absence is included in the table. Of the other 51, five had died, four had left school, and 42 were still out of school at the end of 1920. At the end of 1920 there were 190 children excluded from school, including 4 children who have been excluded permanently: the absences of these 190 children are not included in this table.

EXCLUSION TABLE, 1920.

Disease.				No. Excluded	Total No. of School Days Excluded	Average No. of Days Excluded
Scarlet Fever	Patients	...	...	245	7435	30.3
do.	Contacts	...	...	409	4869	11.9
Diphtheria	Patients	...	...	86	2461	28.6
do.	Contacts	...	...	226	2053	9.8
Smallpox	Patients	...	...	2	100	50.0
do.	Contacts	...	...	5	62	12.4
Enteric Fever	Patients	...	...	1	47	47.0
do.	Contacts	...	...	4	44	11.0
Measles	Patients	...	...	310	4205	13.5
do.	Contacts	...	...	170	1724	10.1
Whooping Cough	Patients	...	...	117	1922	16.4
do.	Contacts	...	...	11	113	10.2
Chicken Pox	Patients	...	...	76	703	9.2
do.	Contacts	...	...	7	43	6.1
Mumps	Patients	...	...	57	838	14.7
Ringworm (body)	...	...	...	20	192	9.6
Phthisis	...	...	...	5	502	100.4
Conjunctivitis	...	...	...	153	793	5.1
Blepharitis	...	...	...	14	75	5.3
Bronchitis	...	...	...	29	203	7.0
Chorea	...	...	...	12	179	14.9
Tonsillitis	...	...	...	61	293	4.8
Impetigo	...	...	...	235	1261	5.3
Septic Sores	...	...	...	25	141	5.6
Scabies	...	...	...	117	1344	11.4
Non-Pulmonary Tuberculosis	...	...	...	6	274	45.7
Corneal Ulcer	...	...	...	6	150	25.0
Otorrhœa	...	...	...	10	50	5.0
Debility (including suspected tuberculosis)	...	...	...	9	167	18.5
Other Diseases	...	...	...	170	1802	10.6
Total	...	...	...	2598	34045	13.10

In this table, days when the schools were closed are not counted.

Scarlet Fever. The number of cases notified amongst children of school age was 226, compared with 244 in 1919 and 230 in 1918; they were fairly equally distributed amongst the schools.

Diphtheria. Eighty-five cases of diphtheria occurred in children of school age compared with 91 in 1919: 21 of these occurred amongst children attending Balliol School, where a small outbreak in the Infants' Department in June and July caused some anxiety. Up to the 28th June six cases were notified; the class affected had their throats bacteriologically examined on 29th June, and two positive carriers were detected and excluded from school; five more cases occurred in the Department in July, and the outbreak then subsided.

Measles. At the close of 1919 and in the beginning of 1920 there was a tendency for measles to become epidemic, but the withdrawal at the commencement of the year of compulsory notification prevents exact figures being given. As noted below, a local Act now requires such notification by the parent to the schools, and through this and from other sources it is known that 277 children of school age contracted measles during the year.

Smallpox. Two cases of smallpox in school children occurred in April and lend point to the risks incurred by the neglect of vaccination to which attention has been called each year in these reports. Routine examination showed that 8.4 per cent. of the leavers, 11.8 per cent. of the intermediates, and 12.8 per cent. of the entrants this year were unvaccinated.

Whooping Cough. One hundred and forty-nine cases in school children were reported compared with 32 in 1919, and 97 in 1918.

There were also 78 cases of mumps and 105 cases of chickenpox reported during the year.

On August 4th, 1920, the Bootle Corporation Act, 1920, came into force, and Section 14 requires parents to give immediate information to Head Teachers of any infectious disease (including measles, German measles, chicken-pox, etc.) in their households; and this information is in turn notified to the School Medical Officer. These latter returns do not, of course, constitute an account of the whole of the infectious sickness that occurs, as there are the school holidays, during which no notifications are received. The undernoted cases, however, were reported by the teachers throughout the year, and each case was visited by a School Nurse, who gave appropriate hygienic advice, including, where necessary, instruction to see a doctor and action to secure the attendance of a District Nurse

The following table gives the schools from which cases and contacts of cases of infectious diseases were notified :—

School	Measles			Chickenpox			Whooping Cough			Mumps
	Cases	Con- tacts	Total	Cases	Con- tacts	Total	Cases	Con- tacts	Total	Cases
Bedford Road	45	10	55	14	2	16	30	4	34	5
Linacre	37	1	38	32	3	35	27	3	30	1
St. Winefride's	33	40	73	22	1	23	2	—	2	—
St. John's	31	19	50	16	—	16	2	—	2	52
St. Mary's	29	21	50	4	2	6	2	—	2	1
Balliol	29	3	32	1	—	1	—	—	—	1
Orrell	24	7	31	17	1	18	21	2	23	2
Christ Church	20	6	26	6	—	6	3	—	3	—
Gray Street	8	—	8	2	—	2	3	—	3	1
Hawthorne Rd.	8	17	25	1	—	1	—	—	—	3
St. James'	6	8	14	27	—	27	12	2	14	11
Salisbury Road	5	4	9	7	3	10	3	—	3	1
St. James' Select	2	—	2	—	—	—	—	—	—	—
Totals	277	136	413	149	12	161	105	11	116	78
No. of visits & re-visits	492			161			96			21

The total number of visits and revisits to all cases of minor infectious diseases was 770, compared with 621 in 1919.

School Closure. On account of the prevalence of measles the Infants' Departments of St. John's C.E. and St. Winefride's R.C. Schools were closed from 5th to 22nd March, 1920, the attendances having fallen to 70 per cent. and 71 per cent. respectively.

(f) Following-Up. Review of the arrangements for the following-up of children suffering from physical defects, including a summary of the work undertaken by School Nurses.

The scheme sent out by the Medical Department of the Board of Education for recording the defects discovered at routine and special examinations, the information obtained at "following-up" visits at home or at school, the character of the treatment given, and the results obtained, was carefully considered as regards its suitability for Bootle, and it was felt that its adoption here was unnecessary. It seemed that a scheme which would involve a child accumulating a dossier of fifteen or twenty cards each headed with its school, name, address, and date of birth, entailed a risk of losing sight of the essential ideals of the School Medical Service in a mass of clerical routine.

The system of record-keeping in Bootle starts off with the advantage that all the record cards are kept in the School Medical Office, in which building are also conducted the greater number of the special examinations, and practically all the specialist treatment which is given; and a revision of the system showed that all the statistical requirements of the Board could be met with certain slight modifications of the scheme which had been evolved during the past few years; and these modifications have been adopted and have added to the value of the following-up work without increasing the labour entailed.

The following-up card prepared for every defective child is used for recording the results of action taken by the school doctor or nurse in continuing the observation, or in obtaining the treatment, of the defects about which advice had been given at the medical examination; it is so used at each of the terminal re-inspections made until the doctor discharges the child from further observation as remedied, improved, or in the same condition and pronounced not to require treatment; it is then affixed to the child's schedule card and is available at the next inspection, possibly years later, as a complete account of action taken.

An important part of the school nurses' duties consists of the persuasive work done by them at home visits, when the need for treatment is emphasised and the facilities for obtaining it are explained. During the year 4,350 home visits of this nature were paid by the School Nurses.

In five instances it was found necessary to invoke the aid of the local Inspector of the National Society for the Prevention of Cruelty to Children, and the necessary improvement was obtained by him without recourse to legal proceedings.

(g) Review of the methods employed or available for the treatment of defects, and a statement of the ascertained results of treatment.

The School Clinic established in 1914 continues to be the most important method of obtaining treatment of school children, and the accommodation is now worked up to, and at times beyond, its full capacity. Its situation is not sufficiently central to allow of its use by scholars in the north of the town for treatment involving many visits, and the near future will see the need definitely established for an accessory centre for the treatment of minor ailments and possibly for remedial exercises, and this should be met as soon as financial stringency permits.

The following table gives a summary of the treatment obtained whether at the school clinic or otherwise; the detail is given in Table IV. on page 49.

TABLE V.—SUMMARY OF STATEMENT OF DEFECTS AS SHOWN IN TABLE IV. (A, B, C, D, AND F, BUT EXCLUDING E).

Disease or Defect.	Number of Children.			
	Referred for Treatment.	Treated.		
		Under Local Education Authority's Scheme.	Otherwise.	Total.
Minor Ailments	1758	1142	462	1604
Visual Defects	544	507	12	519
Defects of Nose and Throat ..	243	132	29	161
Dental Defects	2229	1772	52	1824
Other Defects	1040	22	240	262
Total	5814	3575	795	4370

The following table gives a summary of the work of the treatment clinics :—

	Attendances.	Cases.
Minor Ailments Clinic	10431	1142
Throat Clinic	498	166
Aural Clinic	260	74
Ophthalmic Clinic	2174	1373
Dental Clinic	2172	1772
Remedial Exercises Clinic ...	2759	183
Total	18294	4710

The figures for past years have been :—

1915	...	...	...	...	3467	...	1135
1916	...	...	...	...	8073	...	1490
1917	...	...	...	...	9561	...	1551
1918	...	...	...	...	10474	...	2121
1919	...	...	...	...	17795	...	3685

To a much smaller extent the local general and special hospitals and the services of private medical practitioners are utilised by school children, but no official agreements are in force except one with the Bootle Borough Hospital for the X-ray treatment of cases of ringworm. Under this agreement 20 cases were treated during the year.

As will be seen from Table V. the total number of defects for which treatment was required was 5,814, and the proportion for which treatment was obtained was 75.2 per cent.; this percentage is not comparable with that recorded in Table IV. of the last annual report, which, it was explained, was inflated through a changed method of dealing with the following-up cards.

Minor Ailments. A special clinic for the treatment of minor ailments is held daily at 8-30 a.m. at the School Medical Offices under the supervision of the Assistant School Medical Officer. Children in attendance at school are first dealt with, and those excluded for communicable diseases who have been left aside next receive attention, and the last child leaves as a rule before 10-30 a.m. A classification of the cases dealt with during 1920 is as follows:—

Disease.	No. of Children.	Attendances.	Cured.	Improved.	Still Attending.
Ringworm, body	19	234	19	—	—
„ scalp	51	1209	39	—	12
Impetigo, head ...	147	1172	146	—	1
„ face ...	188	1401	187	—	1
Eczema ...	39	301	39	—	—
Septic Toes and Fingers ...	128	936	126	—	2
Otorrhoea ...	116	1587	67	41	8
Conjunctivitis ...	164	1186	163	—	1
Blepharitis ...	45	616	44	—	1
Scabies ...	72	553	71	—	1
Various ...	173	1236	167	1	5
Totals ...	1142	10431	1068	42	32

It will be remembered that the last Annual Report recorded a very large increase in the number of attendances at this Minor Ailments Clinic (from 5,591 during 1918 to 10,691 during 1919); this year's figure of 10,431 attendances is in close agreement with the previous year's experience and it will be gratifying if future years can show a diminution in the incidence of what are for a large part dirt diseases. As contrasted with 1919, cases of ringworm show a large decrease, which was, however, counter-balanced by an increase in scabies, impetigo, and septic skin conditions generally.

Scabies is treated as in past years, by obtaining daily bathing and rubbing with sulphur ointment at home; the 71 cases successfully treated had an average period of exclusion from school of 11.4 days.

Ringworm was treated in 70 cases by drugs at the Clinic and in 20 by X-rays at the Borough Hospital.

Aural Clinic. The Aural Clinic is held every Saturday morning. During the year 74 children made 260 attendances.

			Discharging Ears.	Deafness without Discharge.
Number of cases ...	...	...	50	24
Discharged cured ...	...	...	22	13
Improved and attending	...	...	12	—
Discontinued to attend ...	...	...	16	11

Throat Clinic. The arrangements for removal of enlarged tonsils and adenoids remain as in previous years under the care of Mr. Courtenay Yorke. After the primary reference for operative treatment the children are re-examined by the Assistant School Medical Officer the day before the Surgeon is due to attend at the clinic, and those considered suitable are advised as to preparation for operation on the following day. During the year there were ten operating days, and 132 children had enlarged tonsils and adenoids removed; in 54 cases both conditions were present, in 16 adenoids only, and in 62 enlarged tonsils only.

In all cases nitrous-oxide gas was the anaesthetic used, and no untoward results were experienced. After the operation every care is taken to impress upon the parents that the treatment is by no means completed, and that

the important task remains of securing proper nasal breathing; wherever possible this is obtained by giving systematic breathing exercises at the Remedial Exercises Clinic.

Ophthalmic Clinic. The total number of children seen at the Ophthalmic Clinic in the course of the year was 1,373, compared with 1,383 in 1919. Apart from the 464 new cases, there were 637 for whom glasses had been prescribed in previous years and who came for their eyes to be re-tested, 95 old cases of external eye disease who re-attended during 1920, and 129 who were still under treatment on 31st December, 1919. Of the 464 new cases 283 were referred from the routine inspections. The total number of attendances at the Clinic was 2,174, compared with 2,399 in 1919.

	Discharged after Appropriate Treatment.	Under Treatment 31st December, 1920
<i>Eye Diseases—</i>		
Blepharitis	23	1
Chronic Conjunctivitis	2	1
Catarrhal Conjunctivitis	17	1
Phlyctenular Conjunctivitis	5	1
Nebulae	2	3
Marginal Keratitis	4	—
Corneal Ulceration	7	1
Other Eye Diseases	11	7
	71	15
<i>Examined for Refractive errors—</i>		
Emmetropia (Normal Vision)	25	—
Simple Hypermetropia (Long Sight)	96	45
Simple Hypermetropic Astigmatism	42	18
Compound „ „ „ „	74	22
Mixed Astigmatism	38	7
Myopia (Short Sight)	27	9
Compound Myopic Astigmatism	32	11
Under Observation	11	10
Retinoscopy not taken and un- completed cases	—	40
	345	162
Totals	416	177

The table does not include particulars of the 637 children who attended to have their vision re-tested after having worn spectacles for six or more months; in 117 of these cases, a new prescription was necessary.

Seriously Defective Vision. In 165 of the children who attended the Clinic the error of refraction was over 5 dioptries (a very serious amount). In 123 of these the appropriate glasses had been obtained before the end of the year, and at the time of writing the others have obtained them or have them on order.

Some of the 165 children with very defective vision are unable to do near work without the risk of damaging their eyes. They have been recommended by the Ophthalmic Surgeon for "easy treatment," and as far as the school conditions permit the special instructions as to modified work are followed; but there is no doubt that the children's education could be furthered with less strain to their sight if they were collected into a special "myope class" where reading ordinary type and writing a small hand would be replaced by blackboard work and more manual instruction.

Dental Defects. The services of Mr. Meeson, B.D.S., as School Dentist, have continued to be available for five sessions weekly. This is now insufficient to carry out the full programme commenced in October, 1915, which provides for the annual dental inspection and treatment of all scholars from the seventh year of their age, and the insufficiency will, of course, become increasingly marked every year as another seven year old group comes into the scheme. When the working plan was reviewed in August, 1920, enquiry was directed to ascertaining the extent to which the value of the dentist's services was lost through the re-inspection of children whose parents had in previous years declined treatment, or had failed to keep appointments made for treatment; and it was felt advisable in order to obtain the maximum advantage from the dentist's services that such children should for the present be omitted from further inspections. The re-inspection programme to which Mr. Meeson is now working is accordingly the examination of (a) cases absent at the previous year's inspection; (b) cases who completed treatment, wholly or partially, in previous years; (c) cases who needed no treatment at previous years' inspections; and six months' experience of this plan makes it appear that five sessions weekly will suffice to carry this year's seven year olds, together with all the children inspected during the past four years, whose parents have appreciated the facilities offered. It is interesting to note, however, that the thought that these facilities are in future to be offered once only is already

having more effect in convincing a certain class of parents of their worth than any amount of reasoned demonstration. On this account, therefore, and because next year will see an additional 1,200 children brought into the scheme, it is desirable to realise that extra dental assistance must shortly be sought.

The number of children whose mouths were inspected for the first time was 1,142, and 1,851 children who had been inspected in previous years were re-inspected; of the first group 780, or 68 per cent., were referred for treatment, together with 1,268, or 64 per cent., of the older age groups. In addition, 181 emergency cases presented themselves for treatment at the dental clinic and received attention.

The percentages, both of children who failed to keep appointments or who discontinued treatment before it was completed, show a decrease from the previous year, and yield satisfactory evidence of a slowly growing appreciation of the importance of the work done; while the number of completed cases shows a large rise from 946 to 1,772. A full tabular statement of the work of the clinic follows:—

BOARD OF EDUCATION.—TABLE IV.D.

		AGE GROUPS.				Specials	Totals
		7	8	9	10		
Inspections by Dentist	...	1142	697	690	464	181	3174
Referred for treatment	..	2048				181	2229
Actually treated	...	1591				181	1772
Retreated result of periodical examinations	...	853				—	853

No. of half-days devoted to Inspection	No. of half-days devoted to Treatment	Total No. of Attendances made by the Children	No. of Permanent Teeth		No. of Temporary Teeth		Total No. of Fillings	No. of Administrations of General Anæsthetics included in 4 & 6 9	No. of Other Operations	
			Extracted	Filled	Extracted	Filled			Permanent Teeth	Temporary Teeth
1	2	3	4	5	6	7	8		10	11
56	161	2172	102	644	2861	13	657	270	2 (Regulation)	6 (Scaling)

In dealing with this matter of dental decay, which is increasingly realised to be one of the principal causes of ill-health and loss of physical efficiency, it is desirable to face the fact that dental surgery cannot be the only item in a scheme of prevention, and that planned and organised research into causes is still needed, together with an educational campaign to bring home to the people the lessons learned from research as far as it has now gone. Individual family experiments in diet, and the knowledge gained nationally as to a decrease in dental decay in children brought up during the war-time period of restriction of white bread and sugar, give support to the teaching of Dr. J. Sim Wallace, and others, that meals should be arranged so as to finish with a fibrous detergent or self-cleansing food such as fruit or nuts, instead of with soft fermentable foods like jam or milk-puddings, and it will pay the community to preach and to practise this doctrine as far as it is able.

In this connection Mr. Meeson presents the following note on his work at the Clinic:—

“It is the aim of the School Dental Service to undertake regular periodical treatment of the teeth of children, from the earliest practical age to the end of school life. The regularity of treatment, by never allowing any trouble to advance far, makes the work of the service largely preventive.

“In this Borough, treatment commences on the completion of the child's sixth year, at which age the permanent teeth begin to erupt; and is continued by, as nearly as possible, annual inspection and treatment until the child leaves school. Last year it was possible for the first time to inspect and treat the whole of the initial age group, and to complete the re-inspection and re-treatment of all the older groups in nine of the thirteen schools. Of the children inspected two out of three needed treatment, and of these children needing attention, three out of four kept their appointments at the dental clinic, and also made any subsequent visits necessary to complete their treatment.

“A noteworthy point with regard to treatment is the increased use in extractions of nitrous-oxide gas, which has been given in all cases where the child was likely to suffer severe pain. Apart from the question of humanity, pain which leaves a lasting impression on the child's mind will

“ make it difficult to carry out future treatment, or even to secure attendance at the dental clinic after the next annual inspection, and so destroys the continuity of care which is so essential to give the work a preventive character.

“ With regard to the causes of dental defects, I can only give my own opinion. Up to the age of six, infant feeding and the diet of the mother before and after the child is born seem the chief factors; the lack of vitamins in a diet of white bread, vegetable margarine, condensed skimmed milk, tea and jam, is bound to be as harmful to the forming teeth as to the health of the child generally. After six years the effects of the child's own solid diet and the use or absence of a tooth brush are evident. Here another objection to the white bread, jam, and fried potato diet is obvious; apart from the glutinous consistency of such a diet and its liability to fermentation, there is an absence of hard or fibrous material which is so necessary for the development of the teeth and jaws.

“ Food which needs chewing is essential, not only for its mechanical cleansing action and the stimulus to the teeth and gums which doing their proper work provides, but also for the flow of saliva produced, for saliva (not stagnant but ‘running’ saliva) is the natural medium with which teeth should be flushed and washed.”

Crippling Defects and Orthopædics. The foundation of a satisfactory scheme for the treatment of crippling defects has been laid in the possession by the Authority of its Remedial Exercises Clinic under the care of the Assistant School Medical Officer and Miss Chuck, the Principal of the Liverpool School of Massage, and in the maintenance by the Council, at Leasowe Children's Hospital, of six beds which are commonly occupied by children of school age.

The following table gives an account of the work done at the Remedial Exercises Clinic; the figures show a slight increase from the previous year and represent the maximum amount possible under existing arrangements.

Disease.	No of patients.	Dis-charged cured or much Improved	Still attend-ing.	Attend-ances.	Left be-fore treat-ment completed
Mouth Breathers	76	56	20	664	—
Deficient Chest Expansion ..	14	4	4	239	6
Round Shoulders	6	1	4	58	1
Kyphosis	2	—	1	76	1
Infantile Paralysis	28	1	19	851	8
Otorrhœa	8	1	1	76	6
Stammer	10	4	—	186	6
Rickets	10	3	6	83	1
Scoliosis	6	2	4	100	—
Various	23	6	10	426	7
Totals ...	183	78	69	2759	36

It was suspected in the latter half of the year that a re-consideration of the type of case referred to the Remedial Exercises Clinic would lead to the rejection of a number of cases of long standing paralysis in which no improvement had been produced, and the passing through of a larger number of less severe cases capable of receiving greater benefit.

In order that this might be done and to ensure better specialist supervision of the Clinic, it was suggested that the consultant services of a recognised orthopædic surgeon should be obtained several times a year. This is expected to have the additional advantages of rendering more easily available admission to beds in the Liverpool special hospitals when such is necessary, and of relieving the mothers of a difficult journey with a crippled child. The Authority has approved this suggestion, and the School Orthopædic Surgeon has now (March, 1921) paid his first visit to the Remedial Exercises Clinic.

But although the Authority has an excellent scheme for the ascertainment of the cripples in the area and has provided for orthopædic hospital beds and for massage and remedial exercises, the position must be faced

that the full co-operation of the parents, which is so necessary, means the overcoming of many difficulties and disappointments in the homes. There are the difficulties of conveying the child to the clinic or out-patient department, the long waiting in the latter, the lapse of time before in-patient treatment can be procured, or the obtaining of a splint or special boot which needs replacing before the last instalment of its cost is paid: in too many instances these difficulties are not overcome, and one sees in the homes or the schools children without necessary appliances or with unsuitable ones which they have long outgrown.

In all such cases, however, valuable assistance is given by the Local Invalid Children's Aid Association which has continued the arrangement of interviewing parents at the School Medical Offices; and fortunately one has faith in the possibilities of preventive medicine, and endorses the claim of a public health colleague that a Health Visitor does as valuable a work as an orthopædic surgeon, although in the nature of things, the results are less apparent.

(h) Open-Air Education. Review of the arrangements made for the provision of facilities for Open-Air Education, and of the results obtained.

Consideration of this section is disappointing. First principles clearly point to the wisdom of placing the growing child under conditions as nearly natural as possible, physiological research decisively establishes that cool moving air is a necessary stimulus to healthy life or growth, and the ten or fifteen years' experience of those pioneer education authorities who have maintained open-air schools demonstrates their complete success, but all are powerless against the inertia of the public who on this matter need reiterated assurances.

Facilities for open-air education need not involve extra expense in building, and the light semi-permanent structures that should be erected would at least save the generation after next from being imprisoned within the ideals of to-day, as are present school children within the petrified ideals of their grandfathers and great-grandfathers.

It was noted in the last Annual Report that the plans of the Moss Lane Council School shortly to be erected provided for the inclusion of two open-air classrooms in each department: this is a desirable step in the

right direction, but an early opportunity should be taken of increasing the light and air in some of the rooms in the existing schools where the area of window space is small and where only a small fraction even of this is made to open. The chief requirement is that one side of the room should be open to the outside air—a light screen could be added to combat rainy or windy weather.

Mention was also made in the last annual report of the probable provision by the local Health Authority of a residential open-air school for sixty children as an annexe to the existing Sanatorium at Maghull. This scheme is now deferred and no special facilities for open-air education are under discussion.

Failing a residential or a day open-air school it is suggested that playground classes should be continued and developed in a number of schools this summer. Elsewhere one has had experience of such, which fall into three categories—a medical selection of ailing or delicate children from two or three neighbouring classes, the transference *en bloc* of one class, or the taking of classes by rotation for occasional half-days into the playground. The second is probably the most satisfactory, and although there are difficulties of wind and glare to be surmounted, the formation of such classes wherever possible is recommended.

(i) Physical Training. Description of the arrangements for associating the School Medical Service with the work of Physical Training in the Schools.

No definite arrangements have been made, nor is there an area organiser of physical training. From casual observations made during visits to the schools for other purposes, it is evident that wide variations obtain in the standard of physical training lessons; and one is convinced that a general raising of this standard would follow from the appointment of an organiser of physical training, who by systematic visiting, by demonstration lessons, and by skilled advice, could encourage and help teachers in their teaching of this important subject. Everyone realises how little benefit is obtained from a muscular movement calling forth no effort or requiring no mental application, and how easy it is for a proportion of a large class to shirk; and it is highly important to secure the maximum advantage from the time devoted to this subject week by week.

Although no credit can be claimed by the School Medical Service for certain valuable out of school efforts to promote the children's social and physical welfare, these efforts should not be overlooked in a survey dealing with the health of the school child, and I am indebted to Mr. S. Clarke, Education Secretary, for the following account of this work:—

“ Evening Play Centres. The three Evening Play Centres, mentioned in last year's report, which were opened in September, 1919, were carried on until June, 1920, and were re-opened again in September. They have been a great attraction, the average attendance being 887 per evening. The Centres are carried on under bright and cheerful conditions, and the staffs consist of Teachers from the Day Schools, with a fair proportion of other helpers experienced in children's clubs, etc. The curriculum of the Play Centre depends largely upon the ability and ingenuity of the Superintendent and assistants, the inclinations of the children, and the apparatus and material available. The staffs are practically given a free hand. Occupations include physical exercises, singing and singing games, dances (country dances and rhythmic dances), needlework, knitting, doll-dressing, drawing and painting, modelling, reading, table games such as ludo, draughts, dominoes, and table football, parlour and party games, meccano, etc. Whenever there is sufficient daylight, outdoor games (rounders, etc.) and physical exercises are taken in the playgrounds, and occasional visits are made to the recreation grounds and open spaces near to the schools for cricket, etc.

“ The children are mainly from poor homes. Play Centres are certainly the means of keeping children ‘ off the streets ’ and of enabling them to spend their leisure time in a profitable manner.

“ School Social Organisers. In each of the Boys' and Girls' Departments of the Elementary Schools one of the teachers is specially recognised as the school's ‘ Social Organiser.’ The duties of such a teacher are to ascertain from the children how their leisure time is spent and to advise them to join the School's Sports Clubs, to attend the Evening Play Centres, or to join other young people's organisations, such as Boy Scout Troops, Girl Guides, Boys' Brigades, Boys' and Girls' Clubs, or any of the many forms of activities connected with the Churches of the Borough. the desire being to secure that children shall have some semi-educational or recreative interests apart from the ordinary school work. Hobbies of

“ various descriptions are encouraged and also concerts and lantern lectures
 “ during the winter. School excursions and holiday camps are within the
 “ range of possibility. Much is expected from this important phase of social
 “ welfare.

“ *Children's Sports.* It is claimed that exceptional attention is paid to
 ‘ children's sports in the Bootle schools. There is an energetic and enthu-
 “ siastic Sports Committee of the Local Teachers' Association which or-
 “ ganises schools' football leagues, cricket matches, and swimming galas.
 “ Practically every school has its football club and swimming club, and
 “ several of the schools have cricket and rounders clubs.

“ The Authority is encouraging these activities by means of a grant to
 “ the Teachers' Association for expenditure on equipment.

“ Swimming particularly has, for many years, been an important fea-
 “ ture, the Council's fine sea-water baths being taxed to their utmost
 “ capacity during the warmer months.

“ It is intended that arrangements shall be made during the summer
 “ of 1921 for the use by Elementary School children, of a swimming bath
 “ on the premises of the Junior Technical School, Marsh Lane (formerly
 “ the Bootle Day Industrial School).

‘ Special encouragement is given to teachers to improve their efficiency
 “ in physical training, and facilities are given for holding classes for rhythmic
 “ dances. The new syllabus of physical training for schools is now in full
 “ operation. Many of the men teachers now feel the advantage of their
 “ Army training. Greater use is made of the school playgrounds for open-
 “ air lessons and in some schools practically the whole of the physical exer-
 “ cises are conducted in the school grounds. At the Hawthorne Road school
 “ an army hut has been provided for physical exercises and has met a long-
 “ felt need for indoor accommodation in bad weather.”

8(j) Provision of Meals. Description of the arrangements for associating the School Medical Service with the work undertaken by the Authority under the Provision of Meals Acts, 1906-1914.

The arrangements for the feeding of scholars are in the hands of the School Canteen Committee, of which the School Medical Officer is a member. Selection of the children is made by the head teachers, who are guided,

although not bound, by an approved income scale; in addition a few children nominated by the School Medical Officer on account of malnutrition are added.

From January to March, 1920, there was little distress in the town, and the number of meals supplied was 4,729, with an average weekly attendance of 394.

The provision of school meals was resumed in November, and on account of the extensive unemployment the numbers were much higher: 14,275 meals were given from that time until the end of the year, and there was an average weekly attendance of 1,784, which is almost a return to pre-war conditions.

Breakfasts were given to all children on the lists, and dinners in addition to the more needy proportion of them. The dietary was the same as last year, and the meals were cooked at the Junior Technical School, Marsh Lane, and were distributed to the respective schools by motor van. The serving of the meals was supervised by the school caretakers, who were visited at intervals by members of the School Canteen Executive Sub-Committee, who were satisfied that the caretakers performed the work to the best of their ability.

(k) Co-operation of Parents.

As in past years the attendance of parents at the inspections was invited, and 47 per cent. responded, as compared with 49 per cent. in 1919. At the examinations of the secondary scholars 35 per cent. of the parents attended. Objections to medical examinations numbered fourteen, including five at the Secondary Schools.

(l) Co-operation of Teachers.

The attitude of the teachers towards school medical inspection and its findings is of great moment, and many thanks are due for the sympathy and help shown in this respect during the past year. In certain schools active assistance is given during the inspection; in practically all, personal interest is shown, valuable information regarding the children is given, and children suspected of defects are presented for special examination and advice. After the routine inspection, the following-up register is sent to the school, when efforts are made by the teachers to obtain treatment and

to influence the parents in the right direction; such co-operation is invaluable as the opportunities afforded to the teachers are so much greater than those of the medical staff. In addition thanks are due for the care bestowed on the comfort and convenience of those conducting the inspections.

(m) Co-operation of School Attendance Officers and Co-ordination of their work with that of the School Medical Service.

Cases of absence and irregular attendance are referred by the Attendance Officers and by the School Attendance Sub-Committee for medical examination and report, and are seen at the Inspection Clinic. In addition cases of failure to obtain medical advice, private or public, are reported by the School Attendance Officers. At the Minor Ailments Clinic held each morning from 8-30 a.m. onwards an Attendance Officer is present and assists in the separation of children excluded from those attending school, with a view to the latter receiving early treatment; he also helps in the registration of their attendances and expedites their return to school.

(n) Co-operation of Voluntary Bodies in facilitating the work of Medical Inspection, Following-up and Medical Treatment of the Children

The arrangement outlined last year for the regular attendance at the School Medical Offices of a representative of the Liverpool Branch of the Invalid Children's Association has been a valuable aid in securing medical treatment of certain cases; as surgical appliances, convalescent home treatment, or extra nourishment are provided after necessary enquiries, more expeditiously than formerly. The same Association has similarly referred cases of mental or physical defects under its care to the local Education Authority or the School Medical Officer for action within their powers.

The local Branch of the National Association for the Prevention of Cruelty to Children is also a valuable ally, and to it are referred cases of failure to provide treatment or of neglect, and in all a greater or less degree of success is reported.

(o) **Review of the methods adopted for ascertaining and dealing with children who are Defective within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893, and the Elementary Education (Defective and Epileptic Children) Acts, 1899 and 1914, and of the adequacy of such methods.**

The register compiled last year of all such blind, deaf, and mentally or physically defective children has been revised; additions have been made of cases brought to light by the Attendance Officers, School Nurses, Infant Welfare Visitors, and Tuberculosis Visitors, and other cases have been removed on reaching the age of sixteen or on ceasing to be defective within the meaning of these Acts. This revision entailed the visitation at home or in school by the School Medical Officer, or in some instances by the School Nurses, of all the known "exceptional" children who were not receiving institutional treatment, and although in spite of all efforts it is probable that a number of such have escaped notice, it is believed that the register is now reasonably comprehensive and contains no case not certifiable under one or other of these Acts. A classification of them is given in the following table:—

BOARD OF EDUCATION.—TABLE III.

NUMERICAL RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA IN 1920.

		Boys.	Girls.	Total.
BLIND (including partially blind) within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893.	Attending Public Elementary Schools ...	..	...	...
	Attending Certified Schools for the Blind	6	8	14
	Not at School... ..	2	1	3
DEAF AND DUMB (including partially deaf), within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893.	Attending Public Elementary Schools ...	...	1	1
	Attending Certified Schools for the Deaf	3	5	8
	Not at School... ..	...	1	1

BOARD OF EDUCATION.—TABLE III.—*continued*.
 NUMERICAL RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA IN 1920.

		Boys.	Girls.	Total.	
MENTALLY DEFICIENT.	FEEBLE MINDED.	Attending Public Elementary Schools ...	13	10	23
		Attending Certified Schools for M.D. Children... ..	...	...	...
		Notified to the Local Control Authority by Local Education Authority during the year	...	...	...
		Not at School... ..	4	7	11
	IMBECILES.	At School	...	...	...
		Not at School... ..	3	5	8
	IDIOTS.	—	2	1	3
	EPILEPTICS.	Attending Public Elementary Schools ...	3	2	5
		Attending Certified Schools for Epileptics	...	...	...
		In Institutions other than Certified Schools	...	...	...
		Not at School... ..	3	...	3
PULMONARY. TUBERCULOSIS.	Attending Public Elementary Schools ...	39	50	89	
	Attending Certified Schools for Physically Defective Children	...	...	...	
	In Institutions other than Certified Schools	1	3	4	
	Not at School... ..	14	15	29	
CRIPPLING due to Tuberculosis.	Attending Public Elementary Schools ...	4	5	9	
	Attending Certified Schools for Physically Defective Children	...	...	...	
	In Institutions other than Certified Schools	10	5	15	
	Not at School... ..	3	9	12	
CRIPPLING due to other causes other than Tuberculosis, i.e., PARALYSIS, RICKETS, TRAUMATISM.	Attending Public Elementary Schools ...	28	14	42	
	Attending Certified Schools for Physically Defective Children	...	...	...	
	In Institutions other than Certified Schools	3	...	3	
	Not at School... ..	4	3	7	
OTHER PHYSICAL DEFECTS, e.g., delicate and other children suitable for admission to Open-air Schools; Children suffering from severe Heart Disease.	Attending Public Elementary Schools ...	12	9	21	
	Attending Open-air Schools	...	...	...	
	Attending Certified Schools for Physically Defective Children, other than Open-air Schools	...	...	...	
	Not at School... ..	...	2	2	
DULL OR BACKWARD.	Retarded 2 years	123	187	310	
	Retarded 3 years	37	55	92	

Blind and Deaf Children. The provision made for the blind and the deaf is satisfactory—after certification by the School Medical Officer such cases are admitted to Special Schools, day or residential, and in the latter case contributions towards maintenance are obtained from the parents. In one instance the Liverpool Child Welfare Association co-operated with the Education Authority in providing education for a deaf child below the age of seven, on the School Medical Officer's report that the chances of the child learning to speak intelligibly were increased by an early commencement of special education. During the year two blind children and two deaf children were certified under the Act.

Mentally Defective Children. In addition to eleven idiots or imbeciles there are 34 children who, while not being merely dull or backward, are feeble-minded, and yet educable along certain special lines. The problem of dealing with these latter children, however, is rendered difficult by the absence of the special schools which it is now an obligation for Education Authorities to provide. There are, it is true, three special classes for dull and backward children, held at Gray Street, Hawthorne Road, and Orrell Schools, which allow for a modified curriculum and more individual attention, but these do not permit of the necessary classification according to grade of defect, nor are they recognised for the special rate of grant; and at the present time they contain only nine of the above defectives.

One is therefore constantly faced with the concrete question as to what is to be done with such and such a mentally defective. In the child's own interest and to impart some measure of order and control he is better in school, and last year's annual report showed 11 in attendance at the elementary schools (this year there are 23); but in the general interests of the school he is better away as tending to distract the attention of normal scholars, and for the time being a compromise between these two positions is adopted—if the mentally defective is not a nuisance he is admitted to an elementary school, otherwise he drifts about at home.

Physically Defective Children. It has been thought well to revise the previous estimate of the number of these children in the light of a definition suggested by Professor John Robertson, of Birmingham, who would consider a person a cripple whose muscular movements are so far restricted by accident or disease as to affect his capacity for self-support either at the time or in

the future. Of this class 88 children of school age in Bootle are known, and the causes of crippling are tubercular disease, infantile paralysis, rickets, and congenital deformity, in that order of importance.

The education of six is provided for at Leasowe Children's Hospital, where the Local Authority maintain six beds for the treatment of non-pulmonary tuberculosis; the remainder attend elementary schools or are excluded from school attendance according to the circumstances of the individual case. All are seen periodically, and the last examination of them in December, 1920, and January, 1921, showed 19 as not in attendance; these would be the first selections for a Physically Defective School if such were established, and they would then receive the appropriate form of education under suitable surroundings to fit them for earning, or contributing to, their own support in later life.

(p) Statement of the work of the School Medical Service in connection with pupils in attendance at Secondary Schools and the Junior Technical School.

During 1919 all the secondary scholars were medically inspected for the first time, and consequently this year's work was limited to the full examination of new entrants, and of scholars aged 12 and 15 years, together with such a re-examination of children in the other age groups as was indicated by their previous record; this meant the examination of 225 boys and 140 girls.

A statement of the defects found is tabulated on page 12.

Although the numbers are too small to warrant a close comparison with the findings from the elementary schools, in general they confirm previous experience of the better physique, nutrition, and state of cleanliness of the secondary scholars; and of the greater proportion of cases of defective vision which have been corrected by glasses.

The number referred for treatment was 111, while 82 were referred for observation. Of these 69 were re-inspected and were found to have received treatment, in a few cases through the school clinic, and for the rest through private practitioners or hospitals.

The Junior Technical (Trade Preparatory) School receives pupils from the elementary schools at the age of 13½, and continues their education until the age of 16, with special efforts towards fitting

the lads for employment in the following trades:—Engineering (Mechanical and Electrical), Sheet Metal Working, Boiler-making, Carpentry and Joinery, Plumbing, Chemical Industry; 135 were medically examined, and a statement of defects is given on page 12; 41 were referred for treatment, and one for observation.

(q) Conditions of employment of children and young persons.

With regard to the question of the employment of children and young persons under the age of sixteen years, at present the school medical service is concerned only with those who deliver newspapers and milk, with general errand boys, hawkers, and newsboys.

Since the coming into force of the Bye-laws made under the Employment of Children Act and the Education Act, 1918, children over twelve years of age engaged in work out of school hours have been examined by the School Medical Inspector at the request of the Juvenile Employment Committee. Sixty-six children between twelve and fourteen years of age and eleven between fourteen and sixteen years of age engaged in street trading were thus examined. It was found necessary to refuse the certificate in only one case, although defects were found in others requiring treatment. These boys are kept under observation, being seen at the ordinary school re-inspections.

It has been found that, on the whole, children who are employed out of school hours are healthy, well grown, and well nourished. This does not necessarily mean that the extra work has a beneficial effect upon them, but is rather an expression of the fact that the physically well-developed child is the one deemed capable of the extra work.

(r) Miscellaneous Work.

In addition to the ordinary work of routine examinations and re-inspection the following were examined:—Six bursars, three student-teachers, sixty-four scholarship candidates, ninety-six children with a view to determining their fitness or otherwise to hold swimming scholarships, seventy-seven children as to fitness for employment out of school hours, seven children with a view to classifying them according to the definitions of the Mental Deficiency Act.

(s) Deaths of School Children.

The deaths of 69 children of school age occurred during the year; included are 18 from tuberculosis, 11 from diphtheria, 7 from pneumonia, 5 from heart disease and rheumatic fever, 5 from accidents, 4 from scarlet fever, and 3 from measles.

BOARD OF EDUCATION.—TABLE IV.

A.—TREATMENT OF MINOR AILMENTS.

Disease or Defect.	Number of Children.			
	Referred for Treatment	Treated		
		Under Local Education Authority's Scheme	Otherwise.	Total
<i>Skin—</i>				
Ringworm—Head	71	51	11	62
Ringworm—Body	40	19	19	38
Scabies	124	72	46	118
Impetigo	462	335	89	424
Minor Injuries	34	16	16	32
Other Skin Disease	284	220	46	266
<i>Ear Disease</i>	190	116	50	166
<i>Eye Disease</i> (external and other) ...	404	226	132	358
<i>Miscellaneous</i>	149	87	53	140

B.—TREATMENT OF VISUAL DEFECT.

Number of children.									
Referred for Refrac- tion	Submitted to Refraction.				For whom Glasses were pre- scribed	For whom Glasses were provided	Recom- mended for Treat- ment other than by Glasses	Re- ceived other Forms of Treat- ment	For whom no Treat- ment was con- sidered neces- sary
	Under Local Educa- tion Author- ity's Scheme. Clinic or Hospital	By Private Practi- tioner or Hospital	Other- wise	Total					
544	507	—	12	519	419	307	86	86	25

C.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

Referred for Treatment	Number of Children.			
	Received Operative Treatment			Received other forms of Treatment
	Under Local Education Authority's Scheme— Clinic or Hospital	By Private Practitioner or Hospital	Total	
243	132	3	135	26

